Scientifically Based Universal Screening and Progress Monitoring: Integral Components for School Success

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Third Annual Human Development Center Institute: Intervening Early To Reach All Students, April 23-24, 2009

Big Ideas

- One of the Features of Multi-Tier, Coordinated Early Intervening Services (aka RTI) is Data-Based Decision Making, Particularly Screening (Universal) and Progress Monitoring
- Schools Currently Are Unsystematic or Trying to Build Their Data System(s) Around Tests or Practices Used in General Education Classrooms; These Practices are Not Scientifically Based for Screening and Progress Monitoring
- Build Your Data System "Backwards" Ensuring that Data Systems are Tied to Scientifically Based Assessment Practices...Thus, Use Curriculum-Based Measurement.
- Within Members of the CBM Family, There Are Considerable Confusions and Inefficiencies.
- We Know How to Increase Efficacy and Efficiency of Progress Monitoring and Screening

Disclosure

- Mark R. Shinn, Ph.D. Serves as a Consultant for *AIMSweb*, which provides CBM assessment materials and organizes and report the information from 3 tiers, including RTI
- Mark R. Shinn, Ph.D. Serves as a Consultant for *Vmath*, a remedial mathematics intervention, from *Voyager*
- Mark R. Shinn, Ph.D. Serves as a Consultant for Glencoe Publishing for their *Jamestown Reading Navigator (JRN)* product

Handouts and Other Materials Available at

http://markshinn.org

Go to

- 1. Downloads for Professionals
- 2. Presentation and Handouts
- 3. Indiana Department of Education

Some Particular Recommendations...

- Fuchs, L. S., & Fuchs, D. (1999). Monitoring student progress toward the development of reading competence: A review of three forms of classroom-based assessment. School Psychology Review, 28(4), 659-671.
- Fuchs, L. S., & Fuchs, D. (2004). What is scientifically based research on progress monitoring? Washington, DC: National Center on Progress Monitoring, American Institute for Research, Office of Special Education Programs.
- Fuchs, L. S., & Fuchs, D. (2008). Best practices in progress monitoring reading and mathematics at the elementary level. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology V (pp. 2147-2164). Bethesda, MD: National Association of School Psychologists.
- Shinn, M. R. (2008). Best practices in Curriculum-Based Measurement and its use in a Problem-Solving model. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 243-262). Bethesda, MD: National Association of School Psychologists.
- Shinn, M. R. (in press). Building a scientifically based data system for progress monitoring and universal screening across three tiers including RTI using Curriculum-Based Measurement. In M. R. Shinn & H. M. Walker (Eds.), Interventions for achievement and behavior problems in a three-tier model, including RTI. Bethesda, MD: National Association of School Psychologists.

Screening and Progress Monitoring in the Context of Lots of Assessment



(Nearly) Everyone Agrees...

The Big Ideas for Preventing Reading Failure in Grades K-3:

- 1. Increase the quality, consistency, and reach of instruction in every K-3 classroom
- 2. Universal Screening and Timely and Valid Assessments of Reading Growth for Progress Monitoring
- 3. Provide more intensive interventions to "catch up" the struggling readers

The Question is HOW?

- Unspecified and Discontinuous
- Specified, But Discontinuous and Inadequate; or "Independent Contracting"
- Specified and Continuous, But Inadequate
- Specified, Continuous, and Adequate

Modified from J. Torgeson, www.fcrr.org

Status Quo

- Mo Real Plan
- ✓ Driven By the Program's Philosophy
- ✓ Unlikely to Change Referral Driven to Universal Screening
- Interventions Across Any of the Tiers, including IEP, Are Not Likely to Change
- Unlikely to Contribute to Successful Implementation of CEIS

Independent Contracting

- For Tier 1: Existing General Education Tests Are Used for (Universal) Screening and Progress Monitoring by "Benchmarking
- Progress Monitoring at Tiers 2 and 3 Are Identified But Tied to the Program (Title I, Special Education)

e.g., IEP goals based on 80% or PM practices tied to global, broad-band achievement tests

The Problem with "Independent Contracting"

Most General Education Tests Are....

- Really Diagnostic or About Accountability
- Time and \$\$\$ Intensive
- Not Validated for Purposes of Screening and Progress Monitoring
- "Traditional" Practices at Other Tiers Not Validated for IEP Goals and PM and for SE Entitlement Decisions (RTI)

Specified and Continuous, But Inadequate

- General Education Diagnostic or Accountability Tests Are Used At Each Tier
- Again..
- Most General Education Tests Are....
- Really Diagnostic or About Accountability
- Time and \$\$\$ Intensive
- Not Validated for Purposes of Screening and Progress Monitoring
- "Not Validated for IEP Goals and PM and for SE Entitlement Decisions (RTI)

Specified, Continuous, And Adequate

- Validated for Progress Monitoring IEP Goals and PM and for SE Entitlement Decisions (RTI)
- ✓ Validated for Progress Monitoring IEP Screening (Universal and Individual)
- Useful for Accountability and Program Evaluation

When Push Comes to Shove...Underpinnings of Legal and Regulatory Requirements

(B) ADDITIONAL AUTHORITY- In determining whether a child has a specific learning disability, a local educational agency may use a process which determines if a child **responds** to scientific, research-based intervention as a **part of the evaluation** procedures in paragraphs (2) and (3).

Data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting **formal assessment of student progress** during instruction, which was provided to the child's parents.

- (3) Use technically sound instruments that may assess the relative contribution of cognitive and behavioral factors, in addition to physical or developmental factors.
- (c) <u>Other evaluation procedures</u>. Each public agency must ensure that-(1) Assessments and other evaluation materials used to assess a child under this part--...
 - (iii) Are used for the purposes for which the assessments or measures are valid and reliable;

Build It BACKWARDS to Ensure Scientifically Based Assessment Practices: Use CBM for Basic Skills

Cornerstone Set of Tools for US Department of Education/Office of Special Education Programs

National Center on Student Progress Monitoring (www.studentprogress.org)

3 Federally Funded National Demonstration and Dissemination Centers

Almost 30 Years of Research on School-Based Use for Progress Monitoring and Universal and Individual Screening with Over 200 Refereed Journal Articles on Reading Alone

Time and Cost Efficient

CBM Was Developed to Provide Scientifically Based Tools to Write IEP Goals and Monitor Progress

- Original Legislation (EACHA or PL 94-142) Required "New Concept" of IEPs, Annual Goals, Progress Monitoring
- Best Available Technology (...with 80% Accuracy) Was Not Defensible
- Emerging Behavior Practices with the Importance of Single Subject Methods and Graphing

1978

Minnesota Institute for Research on Learning Disabilities (IRLD), Funded by Congress, Formalizes **Stanley Deno's** Research that Began in **1971** and Conceptualized in..



Deno, S. L., & Mirkin, P. (1977). *Databased program modification: A manual*. Reston, VA: Council for Exceptional Children.

In Theory, Any Achievement Test Can Be Used for Universal Screening

Presuming It Identifies the "Right Kids"--

Those Who Need More Intensive Intervention

Presuming It Identifies the "Right Number" of Kids--

Aligned with the Availability of Resources

The Outcome: Scientifically Based Frequent Monitoring Toward IEP Goals Grade 2: Reading - Standard Progress Monitor Passages **Corre* **Errors* **Corre* **Errors* **Corre* **Errors* **Corre* **Corre* **Errors* **Errors* **Corre* **Errors* **Errors* **Corre* **Errors* **Errors



National RTI Center Minimum Criteria

(1) Can you provide *direct* evidence* on the effects of using your tool?

*Direct evidence refers to data from a study that has been conducted based on the tool submitted for evaluation. Studies that use data from the use of another tool, even if it is similar, are considered indirect evidence and will not be considered as adequate evidence for the purposes of this review.

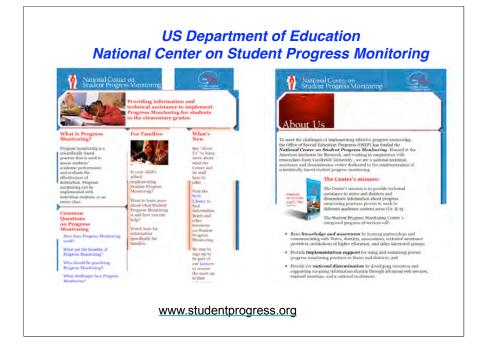
- (2) Do you have the following *classification data for your tool*?
 - a. Specificity
 - b. Sensitivity
 - c. Positive predictive power
 - d. Negative predictive power
 - e. Kappa
- (3) Is your outcome variable a reading measure?
- (4) Are there at least three months between the screening and your outcome measure?

In Theory, Any Achievement Test Can Be Used for Progress Monitoring

Presuming It Identifies the Sensitive to
Improvement in Student Achievement In a
Reasonable Period of Time to Be Used
Formatively

National RTI Center Screening Review Results

TOOLS	AREA	Classification Accuracy	Generalizability	Reliability	Validity	Disaggregated Reliability, Validity, and Classification Data for Diverse Populations	Efficiency			
								Administration & Scoring Time		Norms/ Benchmark
AIMSweb	Reading Curriculum Based Measurement (R- CBM)	0	Moderate High	•	•	1	Individual	2 Minutes	Yes	Yes
Basic Early	Letter Naming Fluency	0	Moderate Low	•	0	-	Individual	2 Minutes	Yes	Yes
	Nonsense Word Fluency	0	Moderate Low	•	0	0	Individual	2 Minutes	Yes	Yes
	Oral Reading Fluency	0	Moderate High		0	•	Individual	2 Minutes	Yes	Yes
	Phoneme Segmentation Fluency	0	Moderate Low	0	0	0	Individual	2 Minutes	Yes	Yes
Scholastic	Phonics Inventory - Screener Version	0	Moderate High	•	0	-	Individual Group	10 Minutes	Computer	No
STAR	Early Literacy	0	Broad	•	0	•	Individual Group	10 Minutes	Computer Scored	Yes
	Reading	0	Moderate High	•		•	Individual Group	10 Minutes	Computer Scored	Yes
STEEP	Oral Reading Fluency		Moderate High		0	_	Individual	1 Minute	Yes	Yes



Standards for Scientifically Based Progress Monitoring Have Been Established

Reliability	Quality of Good Test
Validity	Quality of Good Test
Sufficient Number of Alternate Forms and of Equal Difficulty	Essential for Progress Monitoring
Evidence of Sensitivity to Improvement or to Effects of intervention	Critical for Progress Monitoring
Benchmarks of Adequate Progress and Goal Setting	Critical for Progress Monitoring
Rates of Improvement are Specified	Critical for Progress Monitoring
Evidence of Impact on Teacher Decision Making instruction or Student Achievement;	Critical for Formative Evaluation
Evidence of Improved Instruction and Student Achievement;	Gold Standard

National PM Center Review Results



CBM Family Members Also Meet the Scientific Standards of *Reading First*

Reading Curriculum-Based Measurement (R-CBM), a standardized 1-min sample of oral reading where the number of WRC is counted

Has been deemed *Sufficient* for Use in *Screening, Progress Monitoring, and Outcome* for Grades 1-3 and in subsequent grades

The Secretary of Education's Leadership Academy Assessment Committee Executive Summary of Final Report on Reading First Reading Assessment Analysis (Kame'enui, 2002) Building It Backwards: Ensure Best Practices for Special Education and Students with Severe Educational Needs



The IEP Process is Unsatisfactory: Special Eduction Needs to Be Worth Getting

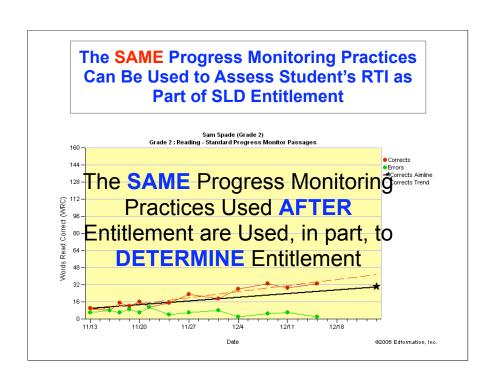
Unfortunately, the *IEP process operates poorly in many places* (e.g., McDonnell et al., 1997). For years, IEPs have been based on a *mastery measurement* framework, which creates

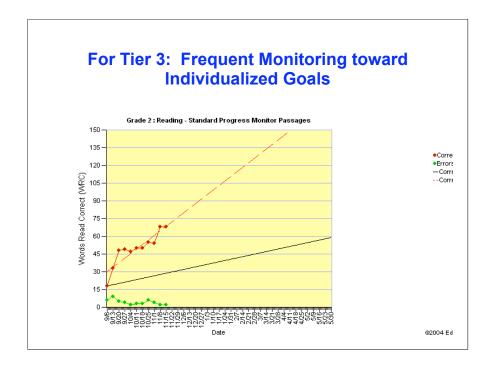
lengthy, unmanageable documents, and onerous paper work.

These mastery measurement IEPs, with their *long lists of short-term* objectives, also fail to provide a basis for quantifying outcomes.

For these reasons and more, IEPs promote, at best, *procedural compliance without accounting for individual student learning* or describing special education effectiveness.

Lynn S. Fuchs and Douglas Fuchs, Vanderbilt University
Testimony to the President's Commission of
Excellence in Special Education,
Progress Monitoring, Accountability, and LD identification



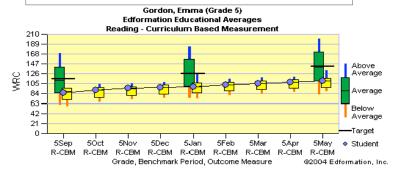


Building It Backwards: Monitor Progress With Less Severe Need (Tier 2)

Less Frequently



Tier 2: Strategic Monitoring of At Risk

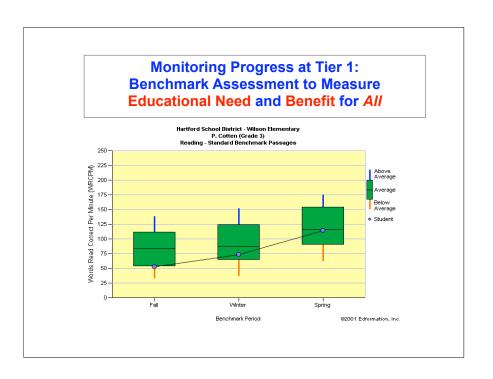


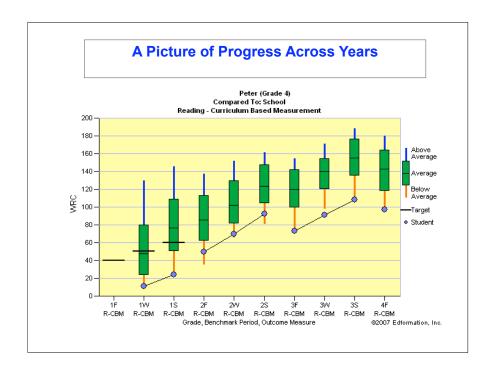
This chart shows that Emma Gordon improved from 85 Words Read Correct (WRC) from grade 5 Passages at the September Benchmark to 90 Words Read Correct (WRC) at the October Benchmark and to 94 Words Read Correct (WRC) at the December Benchmark and to 98 Words Read Correct (WRC) at the December Benchmark and to 98 Words Read Correct (WRC) at the February Benchmark and to 101 Words Read Correct (WRC) at the February Benchmark and to 104 Words Read Correct (WRC) at the April Benchmark and to 104 Words Read Correct (WRC) at the March Benchmark and to 107 Words Read Correct (WRC) at the April Benchmark and to 110 Words Read Correct (WRC) at the April Benchmark and to 110 Words Read Correct (WRC) at the March Benchmark is 0.8 WRC per week. Currently, Emma Gordon's score is Average compared to Edformation Educational Averages.

Building It Backwards: Monitor Progress With Typically Developing Students Least Frequently



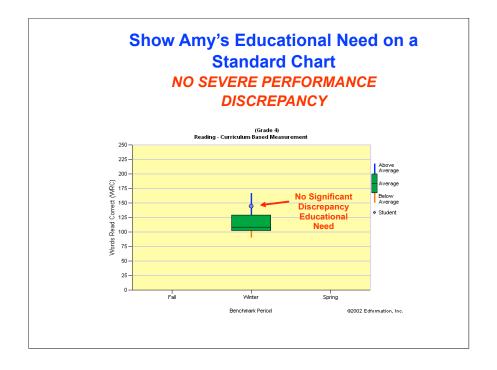
A Personal Story Compared To: Oak Terrace Reading - Curriculum Based Measurement 0 147 Average 105 Average Student R-CBM R-CBM R-CBM R-CBM R-CBM R-CBM R-CBM R-CBM R-CBM Grade, Benchmark Period, Outcome Measure Copyright @ 2008 by NCS Pearson, Inc. Benchmark Comparison: Oak Terrace

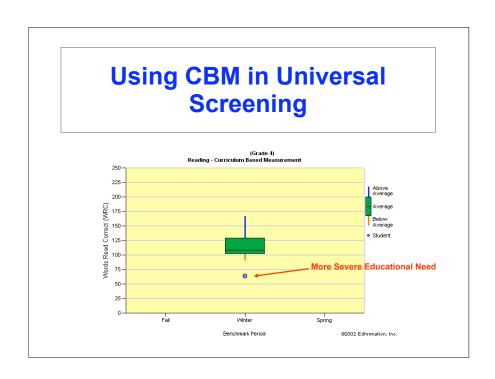


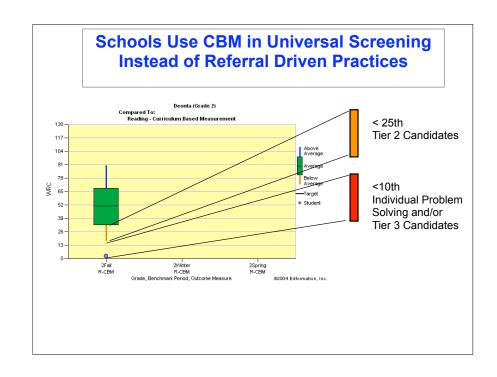


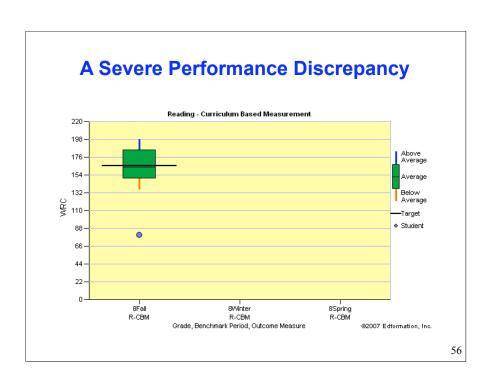
Building It Backwards: NOW Build Your Universal Screening Process

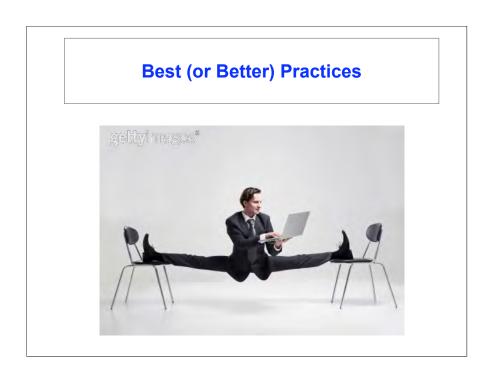










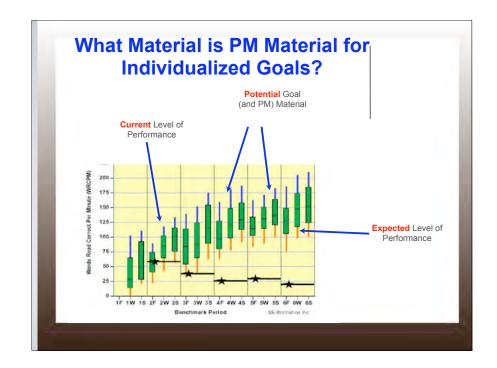


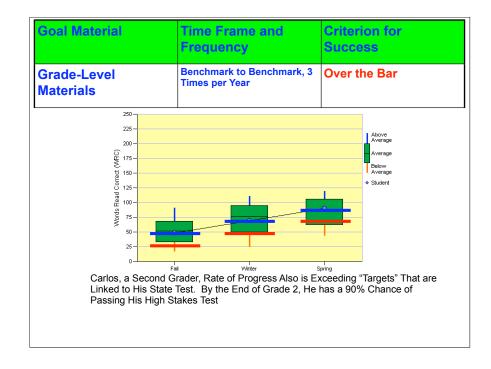
Get Better at Frequent Progress Monitoring Especially Goals



Summary Chart for Goal Setting in 3 Tiers and RTI

Tier	Goal Material	Time Frame and Frequency	Criterion for Success	
Tier 1: Benchmark	Grade-Level Materials	Benchmark to Benchmark, 3 Times per Year	Adequate Progress and "Over the Bar"	
Tier 2: Strategic	Grade-Level Materials	Benchmark and Monthly	Adequate Progress and "Over the Bar"	
Tier 3: Frequent PM	Grade Level OR Individualized Based on Severity	Weekly	Reduce the Gap	
RTI for Eligibility	Grade-Level Materials	Weekly for 4-10 Weeks	Adequate Progress or Reduce the Gap	
Special Education IEPs	Individualized Based on Severity	Weekly	Reduce the Gap	





Triage for Universal Screening



Triage Instead of "Titrating" RTI Interventions

According to Wikipedia, *titration* is a medical term describing the process of "gradually adjusting the dose of a medication until the desired effect is achieved."

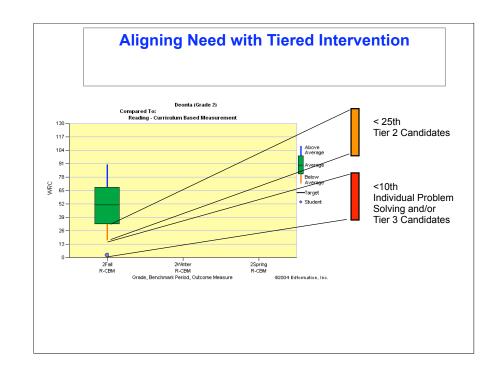
"Dosage," *the intensity of treatment*, is based on a judgment of whether the *Tier 2 "dosage" had its desired effect*. Students that do *not respond to Tier 3* may be considered for an *even more intensive dosage*, special education entitlement, as part of RTI.

Titration (the Old Way) versus Triage (the New Way)

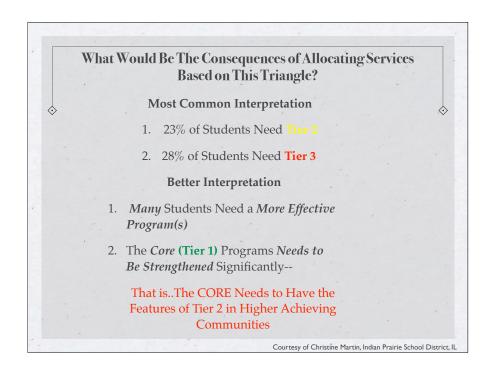
According to the *Wikipedia* definition, *triage* is a process used in a "scene of mass casualty, in order to sort patients into those who need critical attention and immediate transport to the hospital and those with less serious injuries."

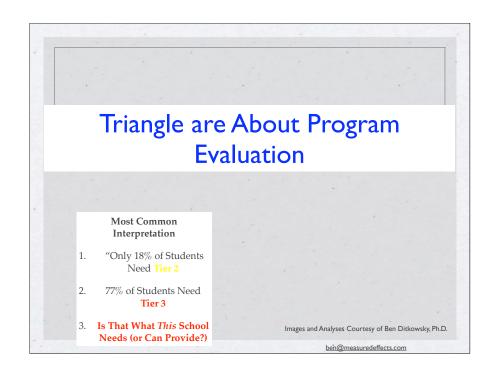
Students whose scores are *below average* (e.g., 25th percentile) may receive *Tier* 2 reading intervention in addition to their core Tier 1 program.

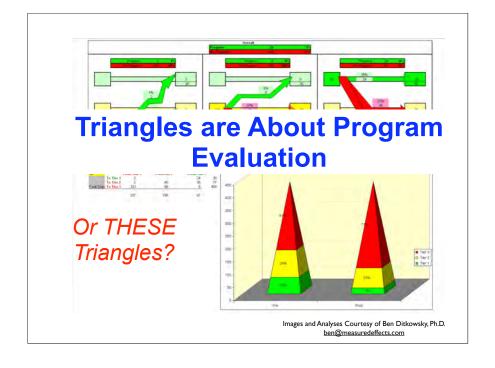
Students with **severe reading needs** (e.g., below the 10th percentile) may receive the most powerful, intense intervention, *Tier 3.*



Use Norms to Do Triage (and Local Ones)







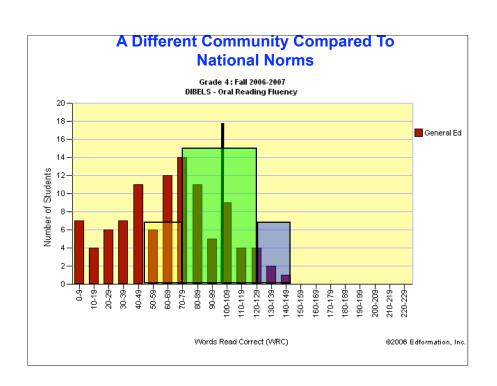
Which Norms?

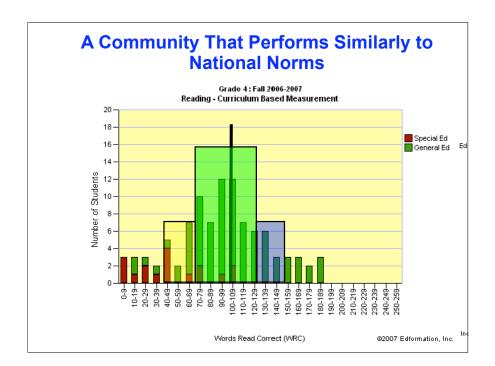
Standard 13.4

Local norms should be developed when necessary to support test users' intended interpretation.

Comment: Comparison of examinees' scores to local as well as more broadly representative norm groups can be informative. Thus, sample size permitting, local norms are often useful in conjunction with published norms, especially if the local population differs markedly from the population on which the published norms are based. In some cases, local norms may be used exclusively.

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2004). Standards for educational and psychological testing. Washington DC: American Educational Research Association. Page 146.





Which Norms?

Standard 4.7

If local examinee groups differ materially from the population to which norms refer, a user who reports derived scores based on published norms has the responsibility to describe such differences if they bear upon the interpretation of reported scores.

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2004). Standards for educational and psychological testing. Washington DC: American Educational Research Association. Page 56.

"National" Norms Doesn't Mean Better Norms

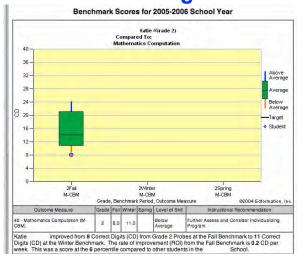
The *validity of norm-referenced interpretations* **depends** in part on the *appropriateness of the reference group* to which test scores are compared. (p. 51)

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2004). Standards for educational and psychological testing. Washington DC: American Educational Research Association. Page 146.

Reduce the Number of Early Literacy Measures and Think Logically



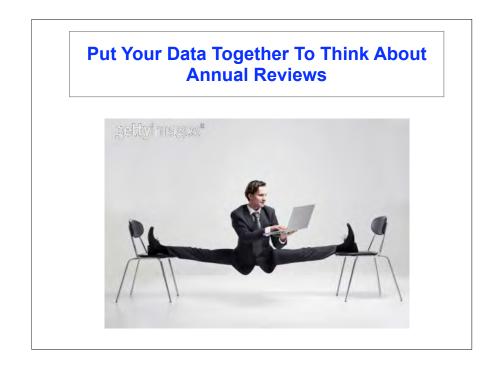
Use Normative Data for Universal Screening

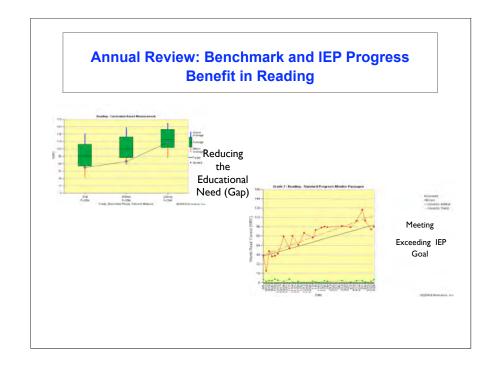


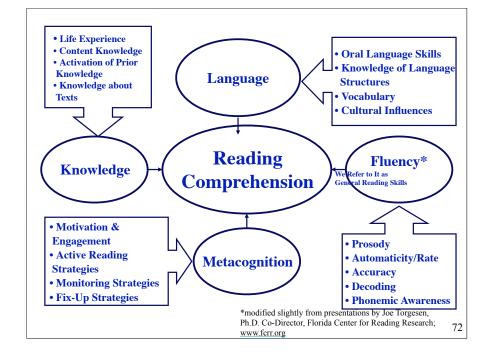
Kindergarten			First Grade			Second Grade		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Initial Sound Fluency (ISF)	ISF	LNF	LNF	PSF	PSF	NWF	ORF	ORF
Letter Naming Fluency (LNF)	LNF	PSF	PSF	NWF	NWF	ORF	WUF	WUF
	PSF	NWF	NWF	Oral Reading Fluency (ORF)	ORF	WUF	RTF	RTF
			Word Use Fluency (WUF)	WUF	WUF	RTF		
				Retell	RTF			

Common Early Literacy Assessment Schedule

	More	Efficie	nt Early	Litera	cy Asses	sment	Schedu	le	
Kindergarten			First Grade			Second Grade			
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	
Letter Naming Fluency	Letter Sounds	Highly Decodable Passages or Word Lists or NWF	Oral Reading	Oral Reading	Oral Reading	Oral Reading	ORF	ORF	
Letter Sounds	↓	↓	↓	\	\				
	PSF	Letter Sounds	Highly Decodable Passages or Word Lists or NWF	Highly Decodable Passages or Word Lists or NWF	Highly Decodable Passages or Word Lists or NWF				
		V	\	\	\				
		PSF	Letter Sounds	Letter Sounds	Letter Sounds				







Big Ideas

- ⊕ One of the Features of Multi-Tier, Coordinated Early Intervening Services (aka RTI) is Data-Based Decision Making, Particularly Screening (Universal) and Progress Monitoring
- Schools Currently Are Unsystematic or Trying to Build Their Data System(s) Around Tests or Practices Used in General Education Classrooms; These Practices are Not Scientifically Based for Screening and Progress Monitoring
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